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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/551,402	04/17/2000	Marc Georges Girardot	AM9-99-0161	1417

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EXAMINER

HILLERY, NATHAN

ART UNIT PAPER NUMBER

2176

7

DATE MAILED: 06/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/551,402

Applicant(s)

GIRARDOT ET AL.

Examiner

Nathan Hillery

Art Unit

2176

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 12-38, 41 and 44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 39, 40, 42 and 43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. This action is responsive to communications: Amendment filed on 4/12/04.
2. Claims 1 – 44 are pending in the case. Claims 1, 42, and 43 are independent. Claims 1 – 11, 39, 40, 42, and 43 are still only be examined at this time due to an election requirement.
3. The objection to the claims has been withdrawn as necessitated by amendment.
4. The rejection of claims 1 – 11, 39, 40, 42, and 43 under 35 U.S.C. 112, second paragraph as being indefinite has been withdrawn as necessitated by amendment.
5. The rejection of claims 1 – 11, 39, 40, 42, and 43 under 35 U.S.C. 103(a) as being unpatentable has been maintained.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 2 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
8. Claim 2 recites the limitation "predetermined higher compression rate" in last two lines. There is insufficient comparative basis for this limitation in the claim and a broad interpretation will be applied for purposes of this examination.
9. **Regarding dependent claim 3**, the claim is rejected for fully incorporating the deficiencies of the base claim(s) from which it depends.

***Claim Rejections - 35 USC § 103***

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 1 – 7, 39, 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liefke et al. (An Extensible Compressor for XML Data).

12. **Regarding independent claim 1**, Liefke et al. teach that *we have implemented a compressor ... for XML data* (page 57, lines 1 – 2) and that *it ... preserves the input XML file faithfully, including element order ... the DTD, etc.* (page 57, 1<sup>st</sup> column, lines 6 – 9), which provide for **compressing an XML document and its associated schema information** ... Liefke et al. teach that *the structure and the data are compressed separately* (page 57, 1<sup>st</sup> column, 2<sup>nd</sup> block, lines 5 – 6), which provides for ... **wherein, during said compressing, said markup portion (structure) and a non-markup portion (data) of said document are separated**. Liefke et al. do not explicitly teach that **the non-markup portion is compressed using a first compression method and the markup portion is compressed using a second compression method**.

However, Liefke et al. do teach that *a novelty in XMill is that it allows users to combine existing compressors in order to compress heterogeneous XML data* (page 57, 1<sup>st</sup> Column, lines 9 – 11). It would have been obvious to one with ordinary skill in the art at the time of the invention to know that the invention of Liefke et al. provide for **the non-markup component is compressed using a first compression method and the markup component is compressed using a second compression method**, since Figure 1 (page 59) demonstrates that the *Structure Container* is compressed using gzip

as default and that *Data Container 1, ... Data Container k* each are compressed first using a semantic compressor then gzip as default.

13. **Regarding dependent claim 2**, Liefke et al. teach that *the structure consists of XML tags and attributes ... the data consists of ... strings representing element text contents and attribute values. The structure and the data are compressed separately* (page 57, 1<sup>st</sup> column, 2<sup>nd</sup> block), which provide for **said mark-up portion comprises structured component information**. Liefke et al. teach that *it does not need a DTD in order to compress, and preserves the input XML file faithfully, including element order, attributes order, PI's, comments, the DTD, etc.* (page 57, lines 6 – 9), which provide for **said schema information associated with the document is used with compressing the structure component** ... Figure 4 (page 62) shows compression rate versus time.

14. **Regarding dependent claim 3**, Liefke et al. teach that *it ... preserves the input XML file faithfully, including ... the DTD* (page 57, lines 6 – 9), which provide for **said schema information comprises a document type definition (DTD)**.

15. **Regarding dependent claims 4 and 5**, Liefke et al. teach that *the structure consists of XML tags and attributes ... the data consists of ... strings representing element text contents and attribute values. The structure and the data are compressed separately* (page 57, 1<sup>st</sup> column, 2<sup>nd</sup> block), which provides for **markup portion comprises a structure of the document and said non-markup portion comprises data associated with said document, and said XML document includes elements containing at least one of character data, child elements, and a combination of character data and child elements**.

16. **Regarding dependent claim 6**, Liefke et al. do not explicitly teach that **an XML markup language is defined in a Document Type Definition (DTD), wherein said DTD is contained in at least one of a <! DOCTYPE > tag and an external file and referenced from a <! DOCTYPE > tag**. However, it would have been obvious to one with ordinary skill in the art at the time of the invention to know that having **an XML markup language is defined in a Document Type Definition (DTD), wherein said DTD is contained in at least one of a <! DOCTYPE > tag and an external file, and referenced from a <! DOCTYPE > tag** is common practice in the art (see page 6 [28] of the W3C XML specification for further support).

17. **Regarding dependent claim 7**, Liefke et al. do not explicitly teach that **an element comprises a group of one or more subelements, character data, EMPTY, or ANY, and wherein attributes are one of optional, required, and selectively include a fixed value, and wherein optional attributes include a default and fixed attributes always have a default**. However, it would have been obvious to one with ordinary skill in the art to know that **an element ...** are terms of art and that the claimed limitations are simply recitations of the terms' definitions, since W3C teaches that *each XML document contains one or more elements, the boundaries of which are either delimited by start-tags and end-tags, or, for empty elements, by an empty-element tag. Each element has a type, identified by name, sometimes called its "generic identifier" (GI), and may have a set of attribute specifications. Each attribute specification has a name and a value* (page 10, first block) and that *an attribute declaration provides information on whether the attribute's presence is required, and if not, how an XML*

*processor should react if a declared attribute is absent in a document* (W3C XML Specification, page 14, under 3.3.2). Further, Section 3 – Logical Structures of the XML Specification, beginning on page 10, should be read for further support.

18. **Regarding dependent claim 39**, Liefke et al. teach that *Xmill ... use zlib, the library function variant of gzip* (page 62, lines 1 – 3 of last block paragraph), which the skilled artisan knows provides for **said first compression method comprises a lossless data compression method**.

19. **Regarding independent claim 42**, the claim incorporates substantially similar subject matter as claim 1, and is rejected along the same rationale.

20. **Regarding independent claim 43**, the claim incorporates substantially similar subject matter as claim 1, and is rejected along the same rationale.

21. Claims 8 – 11 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liefke et al. (An Extensible Compressor for XML Data) as applied to claims 1 – 7, 39, 42, and 43 above, and further in view of W3C (WAP Binary XML Content Format).

22. **Regarding dependent claim 40**, Liefke et al. do not explicitly teach **binary encoding method**. However, W3C teaches that *the binary format encodes the parsed physical form of an XML document, i.e. the structure and content of the document entities* (page 2, last block paragraph). It would have been obvious the skilled artisan to interpret the combined invention as providing for **said second compression method comprises a binary encoding method**, since Liefke et al. teaches that *a novelty in XMill is that it allows users to combine existing compressors in order to compress*

Art Unit: 2176

*heterogeneous XML data* (page 57, first column, lines 9 – 11). It would have been obvious to one with ordinary skill in the art at the time of the invention to combine the teachings of Liefke et al. with that of W3C because such a combination would allow the users of Liefke et al.'s work the benefit of a *binary XML content format designed to reduce the transmission size of XML documents, allowing more effective use of XML data on narrowband communication channels. ... The binary format was designed to allow for compact transmission with no loss of functionality or semantic information. The format is designed to preserve the element structure of XML* (page 2, second and third block paragraphs).

23. **Regarding dependent claim 8**, Liefke et al. do not explicitly teach **a tag name token ... W3C demonstrates on the third to last page in the last two tables that a tag name token is associated with each tag name, an attribute name token is associated with each attribute name and an attribute value token is associated with each attribute value which is defined in the DTD**. It would have been obvious to one with ordinary skill in the art at the time of the invention to combine the teachings of Liefke et al. with that of W3C because such a combination would allow the users of Liefke et al.'s work the benefit of a *binary XML content format designed to reduce the transmission size of XML documents, allowing more effective use of XML data on narrowband communication channels. ... The binary format was designed to allow for compact transmission with no loss of functionality or semantic information. The format is designed to preserve the element structure of XML* (page 2, second and third block paragraphs).



24. **Regarding dependent claims 9 and 10**, Liefke et al. do not explicitly teach **a server ... or a client ...** However, W3C teaches that a binary XML document is composed of a sequence of elements. Each element may have zero or more attributes and may contain embedded content. This structure is very general and does not have explicit knowledge of XML element structure or semantics. This generality allows user agents and other consumers of the binary format to skip elements and data that are not understood. It would have been obvious to one with ordinary skill in the art at the time of the invention to know that **a server searches for the token corresponding to an element or an attribute** and that **a client searches for the element or attribute corresponding to a particular token** because the server needs to parse the document and know how to present it to the client and the client needs to know how to interpret the document.

25. **Regarding dependent claim 11**, neither Liefke et al. nor W3C explicitly teach that **the server and the client each use a different data structure**. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to know that the capability of **the server and the client to each use a different data structure** is well-known because it is advantageous for a server to have a data structure that can handle various data in large quantities because it services many clients; whereas, a client needs a data structure that simply holds little data specific to its capabilities and that provides fast access to such data.

**Response to Arguments**

26. Applicant's arguments filed 4/12/04 have been fully considered but they are not persuasive.

27. In response to applicant's argument that Liefke teaches away from the claimed invention because Liefke specifically discloses that it does not need a DTD in order to compress (page 15 last paragraph), it should be noted that just because the invention of Liefke does not require a DTD as a necessity in order to function, the invention still reads on the limitation of **compressing an XML document and its associated schema information** as outlined in the rejection of claim 1 under 35 USC 103(a); specifically, that *we have implemented a compressor ... for XML data* (page 57, lines 1 – 2) and that *it ... preserves the input XML file faithfully, including element order ... the DTD, etc.* (page 57, 1<sup>st</sup> column, lines 6 – 9).

28. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

29. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the knowledge generally available to one of ordinary skill in the art is being used.

30. In response to applicant's argument that it would not have been obvious to combine the binary XML content format of W3C with Liefke (page 18, 2<sup>nd</sup> paragraph), the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

31. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., compression algorithm, once it knows that there is a schema associated with the document, takes advantage of this and produces further compression; ...perform optimization) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

***Conclusion***

32. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Hillery whose telephone number is (703) 305-4502. The examiner can normally be reached on M - F, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on (703) 305-9792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NH

  
**JOSEPH FEILD**  
**SUPERVISORY PATENT EXAMINER**